MEDICAL PEDAGOGY AND KNOWLEDGE OF CARE: A THEORETICAL MODEL FOR UNIVERSITY EDUCATION IN THE RELATIONSHIP OF CARE BETWEEN THE SEARCH FOR MEANING AND PROFESSIONAL VOCATION

Claudia Bevilacqua
Alma Mater Studiorum - University of Bologna, Italy
cbclaudiabevilacqua@gmail.com

Maria Elena Tassinari
Alma Mater Studiorum - University of Bologna, Italy
mariaelena.tassinar3@unibo.it

Double Blind Peer Review

Citation
Bevilacqua, C., & Tassinari, M. E. (2025). Medical pedagogy and knowledge of care: A theoretical model for university education in the relationship of care between the search for meaning and professional vocation. *Italian Journal of Health Education, Sport and Inclusive Didactics*, *9*(4).
https://doi.org/10.32043/gsd.v9i4.1650

Doi: https://doi.org/10.32043/gsd.v9i4.1650

Copyright notice:
© 2025 The Author(s). This is an open access, peer-reviewed article published by Cares S.r.l. – REN Press and distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

renpress.it/index.php/gsdj
ISSN: 3103-5744

ABSTRACT
In response to the need to develop educational models capable of integrating scientific knowledge, relational competence, and the search for meaning in the training of healthcare professionals, the article presents a theoretical hypothesis of a model of medical pedagogy, grounded in the biopsychosocial paradigm and interpreting the care relationship as an educational and reflective space in which crisis becomes an opportunity for learning and re-signification.

KEYWORDS
Medical pedagogy; biopsychosocial paradigm; university education; theoretical model.

Received 2025-10-17
Accepted 2026-01-12
Published 2026-01-12

Introduction

In recent years, university education in the medical and healthcare fields has been increasingly urged to overcome the reductionist vision that, beginning with Cartesian dualism, separated mind and body, reason and emotion, knowledge and care. The etiological–mechanistic model, which focuses on the body as a machine and on the linear causality of disease, has shown its limitations in representing the complexity of the human experience of health and suffering. In response to these limits, pedagogical and medical reflection has undergone, since the 1970s, an extensive process of renewal. George Engel's (1977) biopsychosocial model and the World Health Organization's definition of health inaugurated a multidimensional conception of care, grounded in the integration of biological, psychological, and social dimensions. At the same time, and taking the Italian context as an example, the contributions of Bertolini (1994) and Zannini (2002) highlighted the need for a pedagogical knowledge capable of restoring centrality to the person and orienting university education toward the quality of care and overall well-being. From this perspective, *medical pedagogy*, in dialogue with the *medical humanities*, has evolved into a research field and practice that combines clinical competence with ethical and relational sensitivity. It recognizes in the care relationship not only a therapeutic act but also an educational process, in which caregiver and patient co-construct meanings of health, identity, and change. Narrative medicine (Charon, 2008) and the pedagogy of care (Mortari, 2015) contribute to this horizon by proposing an approach that values listening, speech, and reflexivity as foundational dimensions of professional practice. University and professional training, therefore, cannot be limited to the transmission of technical and scientific skills, but must become a site of transformative experience, capable of uniting knowledge, awareness, and responsibility. It is thus called to promote a form of knowing that integrates clinical rigor with the capacity to understand the person in his or her entirety, recognizing the existential dimension of care as an integral part of the healing process.

This contribution aims to investigate how *medical pedagogy* can contribute to the construction of educational models capable of integrating scientific knowledge, relational competence, and the search for meaning in the university training of healthcare professionals. Specifically, the article presents a theoretical model of *medical pedagogy*, proposed as a working hypothesis to be empirically tested, grounded in the interpretation of the care relationship as an educational and

reflective space in which crisis—manifesting as illness, disorientation, or limitation—becomes an opportunity for learning and re-signification.

The model integrates the biopsychosocial paradigm with contributions from Psychoneuroendocrinoimmunology (PNEI) (Bottaccioli, 2015; Damasio, 1994), the biology of education (Ziglio, 2016), Viktor E. Frankl's (2007) logotherapy, and Jack Mezirow's (1991) transformative learning theory. Within this framework, professional vocation, as articulated in the *Calling Theory* (Dik & Duffy, 2012), is understood as an ethical and cognitive disposition toward responsibility—one that enables a medical practice that is both scientifically grounded and humanly oriented.

1. The theoretical framework

1.1. From dualism to the pedagogy of care

Contemporary pedagogical reflection is confronted with one of the most radical challenges of Western thought: overcoming the dualism that, since Cartesianism, has separated mind and body, reason and emotion, knowledge and care. The mechanistic paradigm that has long dominated modern medicine—reducing the human being to an organism to be corrected and controlled—has revealed its limitations in representing the complexity of human experiences of health and suffering. In response to this reductionist vision, pedagogy—conceived as a science of human becoming (Alessandrini, 2012)—takes on the task of restoring to both education and care their shared anthropological foundation: the pursuit of humanization and personal liberation (D'Alessio, 2017). From this perspective, pedagogy positions itself as a science of boundaries and interpretation (Cambi, 2003), capable of engaging with medical, biological, and psychological knowledge without renouncing its own epistemological identity. Rejecting any form of reductionism—biological, sociological, or economic—it promotes the transition from dependence to autonomy (Batini, 2005), understood not merely as operational competence but as a practice of growth and existential transformation. In this sense, pedagogy does not simply describe reality but acts upon it, generating processes of meaning-making and change. Education, as Freire (1970) and Dewey (1938) remind us, is a practice of freedom—a democratic and participatory experience that enables individuals to assume responsibility and to transform crisis into a life project in all its dimensions.

Since the second half of the twentieth century, the long process of overcoming Cartesian dualism has found one of its most significant expressions in the paradigm of Psychoneuroendocrinoimmunology (PNEI). This approach, which embodies a systemic vision of the human being, demonstrates how mind and body form a functional unity in which biological, psychological, and social dimensions are continuously intertwined (Bottaccioli, 2015). Neuroscientific and epigenetic evidence (McEwen, 2016; Danese, 2017) confirms that every experience—affective, cognitive, or relational—leaves physiological traces, modifying stress regulation and adaptive capacities. This perspective offers scientific grounding to what pedagogy has long affirmed both theoretically and empirically: the human being cannot be fragmented but must be understood in his or her psychosomatic and relational unity. Pedagogical reflection, in dialogue with PNEI, therefore recognizes that educational action also operates at a biological level, as interventions on awareness, meaning, and relationships influence bodily and physiological processes. In this regard, educational work is not merely symbolic; it produces tangible effects on individual well-being (Sanada, 2016; Feldman, 2024). The *pedagogy of care* emerges precisely at this intersection between science and humanism—a perspective that integrates the biological with the existential and formative dimensions, interpreting care not as treatment but as a generative and transformative relationship. Within this horizon lies *medical pedagogy*, which conceives the care relationship as both a therapeutic and educational process. It draws nourishment from dialogue with the *medical humanities* and *narrative medicine* (Charon, 2008; Mortari, 2015; Bruni, 2021), recognizing in storytelling and attentive listening powerful forms of knowledge that restore dignity and meaning to the experience of illness. Care thus becomes a space where language and reflexivity foster mutual learning, transforming clinical knowledge into relational understanding. Within this framework also lies Ziglio's (2016) *biology of education*, which emphasizes the embodied nature of learning and the inseparable unity of emotion, corporeality, and thought. The dialogue between pedagogy and the life sciences further evolves into *biopedagogy* (Frauenfelder, 2001), grounded in the ethical principle that the human being can never be reduced to his or her biological dimension. This perspective safeguards the complexity of the educational experience and resists the pathologization of existential crises, instead valuing the transformative potential of limitation and suffering. In this sense, pedagogy establishes itself as a *demedicalizing science*: it does not replace medical knowledge but critically integrates it, restoring to care its human and relational essence (Castiglioni, 2022; Crispoldi, 2021).

Building on these premises, within an integrated vision of the person, the subjective dimension, reflection, and the search for meaning become central elements in both care and educational processes. It is precisely within this horizon that Frankl's logotherapy (2007) converges with the pedagogy of care, offering a theoretical and practical foundation for fostering individual autonomy and responsibility. Logotherapy provides a psycho-pedagogical grounding for the relationship of care, recognizing the *will to meaning* as the primary motivation of the human being and as an essential lever for overall well-being. From a formative standpoint, this perspective allows care to be interpreted as a process of shared meaning-making, in which the professional is called to assist the person in rediscovering an existential orientation even within suffering. Frankl's approach interprets suffering not as mere loss or failure, but as a space of self-transcendence—a possibility for self-overcoming through responsibility and relationship. Introducing this dimension into university training for healthcare professionals means valuing the competence of accompanying others in the search for meaning as a transversal component of relational skills. Such competence fosters empathy, deep listening, and the ability to guide patients in reinterpreting and re-signifying their experience of illness.

In this perspective, logotherapy is not merely a theoretical reference but becomes an integral part of a pedagogical model of care, in which the professional—like the therapist—accompanies the other in the discovery of meaning, helping to restore the unity of body, mind, and spirit. Empirical evidence supports this approach. A review conducted by Girmenia, Andrissi, and Tambone (2020) on the clinical applications of logotherapy highlighted the positive impact of meaning-centered interventions in fields such as oncology and palliative care. The studies reviewed show that working on meaning contributes to reducing levels of anxiety and depression, improving the perception of control and adherence to treatment, while fostering a deeper acceptance of one's condition. These findings confirm that the dimension of meaning is not an accessory aspect of care, but a structural component of both therapeutic and educational processes—one that significantly influences patients' quality of life and resilience. When individuals are able to recognize their illness experience as part of a meaningful trajectory, that experience is transformed from a passive event into an opportunity for learning and active participation. From a training perspective, this implies that the search for meaning should be recognized as a core formative competence for health professionals, to be cultivated through practices of reflexivity, supervision, and narrative work. As also demonstrated by Riethof and Bob (2019), the loss of meaning and vocation is among the strongest predictors of burnout in helping

professions, while meaning-centered education functions as a protective and regenerative factor for professional identity. Thus, logotherapy and the pedagogy of care converge in outlining an education for health understood as a shared construction of meaning—where healing is not limited to clinical remission but unfolds through processes of re-signification and reconciliation among body, mind, and narrative identity.

1.2. Educating the pedagogical gaze

Within the framework outlined above, educating the *pedagogical gaze* means cultivating the capacity to read the complexity of the other and to interpret the relationship as an educational space. University education—particularly in the training of health professionals—is thus called to move beyond the mere transmission of technical and scientific skills, opening instead to transformative learning paths that integrate knowledge, awareness, and responsibility. In this sense, the care relationship represents the first formative laboratory: a context in which clinical knowledge is transformed into relational understanding, and the encounter with the other becomes an opportunity for mutual learning. Anamnesis, for instance, can be reinterpreted as an educational and narrative device, where the patient's words are not merely information but biographical narrative—signs of identity and sources of meaning. Through dialogue, the patient gives new significance to their experience, while the caregiver develops empathic and reflective competencies (Charon, 2008; Mortari, 2015). Educating the pedagogical gaze, therefore, entails promoting a reflective *habitus*—a way of thinking and acting grounded in the ability to suspend judgment, embrace complexity, and transform the relationship into a space for reciprocal growth. Such formation does not end with cognitive development alone but involves corporeality and emotion: pedagogy, in dialogue with PNEI and with the biology of education, acknowledges that no meaningful learning occurs without emotional engagement (Buccolo, 2020; Domenici, 2015). The caregiver's professional competence thus rests upon an embodied awareness capable of integrating cognitive, affective, and somatic dimensions. Frankl's logotherapeutic perspective further clarifies the meaning of such formation. If logotherapy interprets life as a search for meaning, then education becomes the space in which this search is exercised and learned. The pedagogical gaze, in this sense, is the ability to perceive in the other's lived experience the movement toward meaning, and to accompany that movement to its fulfillment.

The health professional educated in this vision is not merely a technician of care but an *educator to life*, capable of supporting processes of self-understanding and self-transcendence. In this regard, the *Calling Theory* (Dik & Duffy, 2009) provides a complementary lens, defining professional vocation as an orientation toward service and self-realization through contribution to the common good. Vocation—understood not as predestination but as an ethical and cognitive disposition toward responsibility—becomes a central formative category. It allows for the integration of motivation, meaning, and professionalism, restoring to care its ethical dimension. Education to vocation, therefore, coincides with education to choice, awareness, and freedom: a process of empowerment that strengthens one's ability to act and decide responsibly (Batini & Giusti, 2008). Educating the pedagogical gaze also means fostering *self-care*, understood not as narcissistic introspection but as a reflective practice sustaining personal and professional balance.

In this direction, logotherapy and research on burnout (Riethof & Bob, 2019) converge in showing that the loss of meaning and vocation is among the main causes of emotional exhaustion in helping professions, whereas meaning-centered and reflective education acts as a protective and regenerative factor. Promoting educational pathways focused on meaning, awareness, and reflexivity helps prevent the dehumanization of professional practice and cultivates an integrated professional identity grounded in responsibility and reciprocity. Ultimately, the pedagogical gaze emerges as a way of knowing and inhabiting relationships that unite competence, empathy, and wisdom. It is a gaze that does not dominate but accompanies, that does not judge but interprets, that does not resolve but opens.

2. A theoretical model proposal

This section outlines the theoretical model that the authors intend to propose. It represents an initial, exploratory hypothesis that will require subsequent empirical validation. Although situated within a theoretical and interpretative framework, the model calls for an appropriate methodological structure capable of ensuring rigor, transparency, and transferability to other educational and research contexts.

In this direction, the proposal is grounded in three criteria of scientific rigor derived from pedagogical research: triangulation, trustworthiness, and transferability. These are assumed as guarantees of internal coherence and as conditions for future empirical validation.

2.1. Assumptions and aims of the model

The theoretical model proposed here is based on the assumption that the care relationship itself constitutes a formative and transformative space, in which the therapeutic and educational dimensions are inseparably intertwined. From this perspective, care is not merely a set of clinical procedures, but a relational process that generates mutual learning: through the encounter with the patient, the professional learns the complexity of living and suffering, while the patient, in turn, acquires new forms of awareness, responsibility, and agency in their own healing process. Training for the care relationship therefore, means fostering a pedagogical gaze—a cognitive and relational stance that recognizes the person as an active subject endowed with agency and developmental potential. This gaze is oriented toward understanding the other not as an object of intervention, but as a co-protagonist in a process of meaning-making. From this perspective arises the main aim of the model: to educate healthcare professionals to conceive care as an experience of reciprocal transformation, in which technical-scientific knowledge is integrated with reflective, ethical, and narrative dimensions.

The pedagogical framework supporting the model rests on three complementary assumptions. First, university education is understood as a space for the critical elaboration of experience, capable of combining clinical rigor with ethical and existential reflexivity. Second, the care relationship represents a privileged context of learning, where transversal competences—such as empathy, listening, communication, and self-awareness—are developed as essential for the exercise of healthcare professionalism. Finally, training for care promotes the capacity to question the meaning of illness, healing, and one's professional role, thereby preventing processes of dehumanization or vocational burnout.

The model thus conceives medical pedagogy as both an integrative and foundational framework for healthcare education: a boundary science capable of holding together the biological, psychological, and relational dimensions of care, orienting the professional toward responsibility, awareness, and reciprocity.

2.2. Theoretical foundations: Frankl, Mezirow, and the Calling Theory

For the development of the theoretical model, several key conceptual references were adopted: Frankl's logotherapy, Mezirow's transformative learning, and the Calling Theory by Dik and Duffy, since, although they belong to different disciplinary traditions, they share a common focus on the meaning of experience, responsibility, and the vocational dimension of the caring professions.

Frankl's logotherapy (2007), which constitutes the first pillar of the model, introduces an anthropological vision capable of illuminating both educational and professional practice. According to Frankl, the human being is oriented toward the search for meaning, even under conditions of pain, illness, or limitation. This perspective assigns a transformative value to suffering: when it is accepted and understood, it can lead to an expansion of consciousness and a reorganization of one's vital goals. Applied to the context of healthcare education, logotherapy allows care to be interpreted as a space of meaning, in which the professional does not merely solve a clinical problem but accompanies the patient in understanding and reworking their experience of illness. This leads to a form of education aimed at developing in future practitioners the ability to facilitate reflection on meaning, to support others in constructing new representations of self and body, and to live the therapeutic relationship as an encounter between two freedoms in dialogue.

In continuity with the Franklian perspective, the second theoretical pillar is represented by Jack Mezirow's transformative learning theory (1991), according to which adults learn through processes of critical reflection triggered by situations of crisis or disorientation. Illness, in this sense, can be considered a *disorienting dilemma*: an event that interrupts a previous equilibrium and requires a revision of one's frames of meaning. Transposed into the field of university education for health professionals, this perspective implies the need to create contexts that foster critical reflection, dialogue, and the re-elaboration of lived experiences. The care relationship thus becomes a pedagogical device in which patient and caregiver co-participate in a process of reciprocal and transformative learning. Through the confrontation with vulnerability and limitation, the future professional is invited to recognize their condition as a continuous learner, to review stereotypes and automatisms, and to develop a reflective competence that can translate into ethically conscious decisions.

The third pillar, the Calling Theory, makes it possible to understand the motivational and value-based dimensions of professional identity in healthcare. According to the definition proposed by Dik and Duffy (2009; 2012), vocation is not a moral or religious category but a prosocial orientation that gives meaning to work by connecting it to a purpose perceived as useful and responsible. Although the international literature has not yet reached a unanimous consensus on the definition of "vocation" (Thompson & Bunderson, 2019), recent research agrees in recognizing its value as a central motivational and identity-related construct in the helping professions. Beyond differing perspectives—religious, neoclassical, or modern—an integrated vision of vocation emerges as an experience of

correspondence between inner inclination and external responsibility, between what one "feels called to do" and what one "wants to do." It is precisely this integration, defined by the authors as *transcendent calling*, that generates meaning, resilience, and a sense of purpose, constituting a protective resource against the risk of professional burnout. As observed by Duffy et al. (2019), such plurality of approaches does not weaken its relevance but rather confirms its phenomenological complexity and its centrality in the formation of caring professions. Therefore, within healthcare professions, this dimension assumes a crucial role: perceiving one's work as a response to a calling—understood as a responsibility toward life and human suffering—represents a fundamental motivational resource, but it can also generate forms of psychological vulnerability known as *burnout from vocation* (Bunderson & Thompson, 2009). From a pedagogical standpoint, vocation thus becomes a formative object to be explored critically in order to develop a mature awareness of one's professional role and personal limits. Education to vocation translates into practices of self-reflection, self-care, and supervision, enabling professionals to maintain a balance between dedication and emotional sustainability.

The integration of these three references—logotherapy, transformative learning, and the calling theory—may therefore prove effective in outlining a solid and coherent formative model consistent with the perspective of medical pedagogy.

2.3. Competence framework

The pedagogical translation of the three theoretical pillars previously described makes it possible to outline a competence framework functional to the university training of health professionals. In this perspective, the concept of competence is understood in the sense proposed by Pellerey (2004), that is, as an integrated and dynamic system of knowledge, skills, attitudes, and values. In the field of health education, such a vision allows professional practice to be interpreted not as the mere execution of protocols, but as a reflective and intentional exercise in which the ethical and relational dimensions are constitutive of technical action.

The competences identified are articulated into six interdependent areas, reflecting the integrated nature of the model.

1) Competence in facilitating meaning.
Directly derived from Frankl's logotherapy (2007), this competence involves the ability to promote, within the care context, the search for meaning as an intrinsic

dimension of the healing process.
The professional must be able to recognize and value both explicit and implicit questions of meaning that emerge in clinical dialogue, transforming them into opportunities for reflection and growth.
This competence presupposes empathic listening and a maieutic attitude, capable of accompanying the patient in elaborating personal experiences and recognizing inner resources.

2) Anamnestic–reflective and consultative competence.
A central element of the model is the reinterpretation of anamnesis as an educational space and a context of reciprocal learning.
Within the biopsychosocial paradigm (Engel, 1977), the collection of anamnesis is not limited to investigating symptoms but becomes a device for raising awareness and activating agency in the person assuming the role of patient.
The health professional, through an approach inspired by pedagogical counselling (Demetrio; Crispoldi; Domenici), integrates anamnesis with a needs analysis, investigating not only biological variables but also psychological, social, environmental, and motivational dimensions.
This integration makes it possible to outline a comprehensive picture of the person's resources and vulnerabilities, laying the groundwork for a shared design of the care process. A key tool is the semi-structured interview, which enables the exploration of subjective representations of illness and well-being in a dialogical and non-directive manner.
It is inspired by the principles of non-authoritarian communication and autogenous explicitation interviews, aimed at fostering reflexivity and personal narration. In this perspective, the anamnestic—more precisely, anamnestic-pedagogical—setting becomes a formative context for both actors in the relationship: the professional refines listening and complex interpretative abilities, while the person in care acquires greater awareness of their active role in the therapeutic process.
This approach allows the transition from a multidisciplinary model—based on the juxtaposition of disciplines—to an interdisciplinary model, in which medical, psychological, pedagogical, and social competences contribute jointly to building a unified interpretative map of health and illness.

3) Reflective and transformative competence.
In line with Mezirow (1991), this competence is based on the ability to learn through critical reflection on experience.
In healthcare contexts, reflexivity allows the deconstruction of professional

stereotypes and automatisms, opening the way to revising one's meaning perspectives.
The crisis accompanying illness represents, in this view, a genuine *disorienting dilemma*—not only for the patient but also for the caregiver, who is called to confront vulnerability and uncertainty.
Illness is, above all, a subjective experience: it cannot be isolated from the biography and meanings that the individual attributes to it.
Ignoring this subjectivity fragments care, separating it from its human and relational context.
Training should therefore include tools that promote metacognition, self-assessment, and the re-elaboration of professional experiences, such as reflective journals, narrative portfolios, and clinical-pedagogical supervision.

4) Relational and dialogical competence.
Grounded in the pedagogy of care (Mortari, 2015; Bruni, 2021) and narrative medicine (Charon, 2008), this competence concerns the construction of authentic therapeutic relationships based on empathy, presence, and reciprocity.
Clinical dialogue is understood as an exchange of meanings rather than a unidirectional transmission of information: this implies the conscious use of language, silence, and narration as tools of care.

5) Ethical and vocational competence.
In accordance with the Calling Theory (Dik & Duffy, 2012), this competence concerns awareness of one's role and the deep motivations sustaining professional choice.
Training should help professionals recognize the risks of idealizing care and of *burnout from vocation* (Bunderson & Thompson, 2009), while promoting a balance between dedication and self-care, responsibility, and the acknowledgment of limits.
Supervision and ethical self-reflection pathways thus become privileged instruments for consolidating such awareness.

6) Integrative and systemic competence.
Consistent with PNEI and biopedagogy (Bottaccioli, 2017; Ziglio, 2016), this competence entails the ability to think and act according to a logic of interconnection among body, mind, relationships, and environment.
It is expressed in interprofessional practice and in the ability to interpret health phenomena as complex events connected to biological, psychosocial, and cultural

dimensions.
In this view, education to care also becomes education to complexity.

The competence framework thus outlined defines the profile of a reflective, aware, and responsible professional—capable of integrating scientific knowledge with human understanding and of enacting professional competence as an experience of meaning. Medical pedagogy, therefore, emerges as the epistemological and formative matrix that enables the overcoming of the dichotomy between technique and humanity, between knowledge and care, orienting university education toward the development of an authentically interdisciplinary and person-centered practice.

2.4. Educational devices and teaching strategies

Translating the theoretical model of medical pedagogy into formative practice requires the identification of didactic devices consistent with the epistemological and anthropological aims of the integrated paradigm. These devices are to be understood as intentional learning environments in which knowledge is constructed through experience, reflection, and relationship.

The first formative device of the model is *narration and reflective writing*. These allow the exploration and re-elaboration of care experiences, fostering the emergence of implicit meanings. This process of re-narration enables the development of competence in facilitating meaning and consolidates the ability to think about one's own practice critically and consciously. As Demetrio (1996) states, "writing about oneself means taking care of oneself," and this is also true for the future healthcare professional, who is called to integrate clinical knowledge with the understanding of the human experience of illness.

The second formative device consists of *experiential and reflective methodologies*—simulations, dramatizations, role-plays, and debriefing—which make the relational and decisional processes of care visible. In particular, transformative debriefing, inspired by Mezirow's (1991) theory, enables the transition from action to the critical elaboration of experience.

In line with the anamnestic–reflective competence, a central role is assumed by the *semi-structured interview*, proposed here as a third formative tool. Learning this method—which integrates listening, needs analysis, and the relational dimension—allows the learner to understand anamnesis as a dialogical rather than merely

diagnostic process. Through simulated interviews and guided observation of clinical cases, future professionals learn to recognize the psychosocial dimensions that accompany illness, training themselves to identify the patient's resources and limits as a person.

Consistent with the PNEI paradigm and the systemic perspective of medical pedagogy, university education should also promote *interprofessional learning environments*, where students and teachers from different disciplines—medicine, nursing, psychology, and pedagogy—work together to solve complex cases. This approach responds to the need to overcome the multidisciplinary model, based on the mere collaboration among specialists, in favor of an interdisciplinary model, in which different forms of knowledge engage in reciprocal dialogue and cross-fertilization. The proposed paradigm requires a revision of study programs toward genuinely interprofessional training—not limited to the juxtaposition of knowledge areas but oriented toward their integration. In the literature, Interprofessional Education (IPE) is recognized as a key tool for improving collaboration among professionals and health outcomes (Reeves et al., 2013). The Framework for Action on Interprofessional Education & Collaborative Practice, developed by the WHO (2010) establishes that students from different professions should learn *with, from, and about* each other in order to become practitioners prepared for collaborative work. In this regard, a review by Reeves et al. (2013) shows that IPE can improve collaborative behavior, reduce clinical errors, and increase patient satisfaction, although the evidence remains heterogeneous.

Finally, a further formative device is represented by *vocation and self-care workshops,* which serve as training spaces where students and professionals can reflect on their own values, motivations, and limits, exploring the personal and social meanings of their professional actions. Exercises involving bodily awareness, mindfulness, and self-narration can be integrated into these pathways to foster psychophysical balance and prevent work-related stress, in line with PNEI evidence (Bottaccioli, 2017).

Taken together, these formative devices embody the vision of a reflective, interdisciplinary university education centered on care of the self and care of the other. They make the proposed model of medical pedagogy concretely practicable, enabling the professional in training to unite scientific knowledge with awareness of meaning, competence with responsibility, and efficacy with reciprocity.

Discussion

The model of medical pedagogy outlined here—based on the integration of logotherapy (Frankl, 2007), transformative learning (Mezirow, 1991), and Calling Theory (Dik & Duffy, 2009, 2012)—aims to offer a formative framework capable of combining the scientific dimension of care with its ethical and existential foundation. In continuity with the overcoming of the mind–body dualism and with the systemic horizon of PNEI (Bottaccioli, 2015; McEwen, 2016), the proposal rests on the idea that training for care cannot be limited to the transmission of technical knowledge, but must instead promote a transformative learning process that engages the person as a whole—bodily, cognitive, and relational. As has been shown, the importance of promoting an interprofessional approach in the training of health professionals has been widely recognized at the international level. The World Health Organization (2010), in its *Framework for Action on Interprofessional Education & Collaborative Practice*, highlights that interprofessional education represents a necessary step toward building a collaborative practice-ready workforce, capable of effectively responding to the complex health needs of contemporary societies. From this perspective, care is interpreted as an educational space in which the therapeutic and formative dimensions are intertwined: the caregiver learns from contact with the vulnerability of the other, while the patient finds in dialogue and reflection the possibility of reconstructing meaning and agency. This is the paradigm of the *pedagogy of care* (Mortari, 2015; Bruni, 2021), which conceives the relationship as a locus of mutual knowledge and regeneration of meaning, in coherence with the *medical humanities* (Charon, 2008). The reference to logotherapy sheds light on the formative value of crisis and suffering. Frankl (2007) affirms that even in the most extreme limitation, the human being retains the freedom to attribute meaning; this perspective is confirmed by the clinical studies of Girmenia, Andrissi, and Tambone (2014), which show that meaning-centered interventions improve resilience and quality of life in care contexts. In educational terms, this view invites us to interpret the experience of illness as an opportunity for learning and existential reorientation, in line with Mezirow's theory (1991), according to which *disorienting dilemmas* activate processes of critical reflection and transformation of one's meaning perspectives.

Calling Theory further clarifies the vocational and motivational dimension of healthcare work: the perception of one's actions as a response to an ethical "calling" toward the other constitutes both a source of meaning and a potential source of vulnerability, as demonstrated by research on *burnout from vocation* (Riethof & Bob, 2019).

Finally, the discussion of the theoretical results highlights three main implications. First, health education must include reflective and narrative devices capable of combining clinical competence with existential awareness (Demetrio, 1996; Mortari, 2015). Second, the interdisciplinary and systemic dimension of the model—in dialogue with the *biology of education* (Ziglio, 2016) and *biopedagogy* (Frauenfelder, 2001)—offers a valuable framework for designing integrated pathways between medicine, psychology, and pedagogy, thus avoiding the risks of reductionism and medicalization. Lastly, the most significant challenge is cultural in nature: despite the theoretical legitimacy of the biopsychosocial paradigm, both educational and clinical practices remain largely anchored to the biomedical model (Bottaccioli, 2017). Overcoming this resistance requires ongoing and cross-sectoral formative work aimed at educating professionals in complexity, self-care, and reflective responsibility (Batini & Giusti, 2008).

Conclusions

The formative model outlined here is conceived as a device of meaning, reflection, and responsibility. In this perspective, educating for care means fostering the search for meaning and the awareness of limits, the management of complexity, and the ethical exercise of professional freedom. The challenge posed by this approach is primarily cultural, even before being didactic: it involves building a scientific and professional community capable of conceiving care not as a mere treatment, but as an educational event in which knowledge and health are reciprocally regenerated through a relationship. The concrete implementation of this model, however, entails a non-negligible level of complexity. The difficulty in identifying stable empirical indicators—given the dynamic, relational, and situated nature of formative processes—constitutes a structural limitation, compounded by the persistent cultural resistance to the biopsychosocial paradigm, despite its well-established theoretical legitimacy. Nevertheless, these challenges may be transformed into opportunities if addressed through targeted formative pathways, promoted both within universities and in the framework of continuing professional education for healthcare practitioners.

In this direction, future research should further investigate the effectiveness of the proposed devices, testing their applicability in different contexts and integrating qualitative and quantitative methodologies. At the same time, it will be necessary to explore the organizational and institutional implications of a genuinely interdisciplinary health education, one capable of incorporating into curricula the pedagogical, reflective, and humanistic dimensions of care.

Author contributions

This paper is the result of the joint work of both authors. However, paragraphs 2 and 3 are attributable to Claudia Bevilacqua, while the introduction, discussion, and conclusions are attributable to Maria Elena Tassinari.

References

Alessandrini, G. (2012). *Pedagogia del lavoro. Identità, competenze e orientamenti*. Carocci.

Batini, F. (2005). *Orientamento: Storia, modelli e prospettive*. Carocci.

Batini, F., & Giusti, S. (2012). *Orientamento narrativo*. Erickson.

Bertolini, P. (1994). *L'esistere pedagogico. Ragioni e limiti di una pedagogia come scienza dell'educazione*. La Nuova Italia.

Bottaccioli, F. (2015). *Psiconeuroendocrinoimmunologia e scienza della cura integrata*. Edra.

Bunderson, J. S., & Thompson, J. A. (2009). *The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. Administrative Science Quarterly,* 54*(1)*, 32-57.

Bruni, A. (2021). *Pedagogia medica. Fondamenti e prospettive*. FrancoAngeli.

Buccolo, M. (2020). *Pedagogia del benessere*. FrancoAngeli.

Cambi, F. (2003). *La pedagogia generale*. Laterza.

Castiglioni, M. (2022). *Il pedagogista in sanità*. FrancoAngeli.

Charon, R. (2008). *Narrative Medicine: Honoring the Stories of Illness*. Oxford University Press.

Crispoldi, S. (2021). *Percorsi narrativi per la consulenza pedagogica*. Anicia.

D’Alessio, M. (2017). *Nuovo umanesimo pedagogico*. Armando.

Damasio, A. (1994). *L’errore di Cartesio. Emozione, ragione e cervello umano*. Adelphi.

Danese, A. (2017). Psychoneuroimmunology of early-life stress: The next frontier. Dialogues in Clinical Neuroscience, 19*(1)*, 11–25.

Demetrio, D. (1996). *Raccontarsi. L’autobiografia come cura di sé*. Raffaello Cortina.

Dewey, J. (1938). *Experience and education*. Macmillan.

Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work: Definitions and prospects for research and practice. The Counseling Psychologist, 37*(3)*, 424–450.

Dik, B.J., Duffy, R.D (2012). *Make Your Job a Calling: How the Psychology of Vocation Can Change Your Life at Work.* Templeton Press.

Domenici, G. (2015). *L’orientamento come educazione alla scelta*. Carocci.

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 196(4286), 129–136.

Feldman Barrett, L. (2024). The neurobiology of interoception and affect. *Nature Reviews Neuroscience*, 25*(3)*, 215–229.

Frankl, V. E. (2007). *Uno psicologo nei lager. Alla ricerca di un significato della vita*. Ares.

Frauenfelder, E. (2001). *Pedagogia e biologia. Una possibile «alleanza».* Liguori Editore.

Freire, P. (1970). *Pedagogy of the oppressed*. Continuum.

Girmenia, E., Andrissi, L., Tambone, V. (2014). On the clinical applications of logotherapy: A review of Victor Emil Frankl inheritance. *Clinica Terapeutica* 165*(4),* 330-335.

McEwen, B. S. (2016). Stress and the brain: Individual variability and the role of epigenetics. *Dialogues in Clinical Neuroscience, 18(3)*, 183–192.

Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. Jossey-Bass.

Mortari, L. (2015). *La filosofia della cura*. Raffaello Cortina.

Pellerey, M. (2004). *Le competenze individuali e il portfolio.* La Nuova Italia.

Reeves, S., Perrier, L., Goldman, J., Freeth, D., & Zwarenstein, M. (2013). *Interprofessional education: effects on professional practice and healthcare outcomes. Cochrane Database of Systematic Reviews, 2013*(3), CD002213. Cochrane Effective Practice and Organisation of Care Group.

Riethof, N., Bob, P. (2019). Burnout syndrome and logotherapy: A review. In A. Batthyány (Ed.), *Logotherapy and existential analysis: Proceedings of the Viktor Frankl Institute* (Vol. 1, pp. 145–160). Springer.

Sanada, K., Montero-Marin, J., Alda Diez, M., Salas-Valero, M., Perez-Yus, M. C., Morillo, H., Demarzo, M. M., & García-Campayo, J. (2016). Effects of mindfulness-based interventions on salivary cortisol in healthy adults: A meta-analytical review. Frontiers in Psychology, 7, 1151.

Thompson, J. A., & Bunderson, J. S. (2019). *Research on work as a calling… and how to make it matter. Annual Review of Organizational Psychology and Organizational Behavior, 6*, 421–443.

World Health Organization (2010). *Framework for Action on Interprofessional Education & Collaborative Practice.* *https://www.who.int/publications/i/item/framework-for-action-on-interprofessional-education-collaborative-practice*

Zannini, L. (2002). *La formazione pedagogica del medico*. Raffaello Cortina.

Ziglio, E. (2016). *Biologia dell'educazione e salute globale*. CLEUP.